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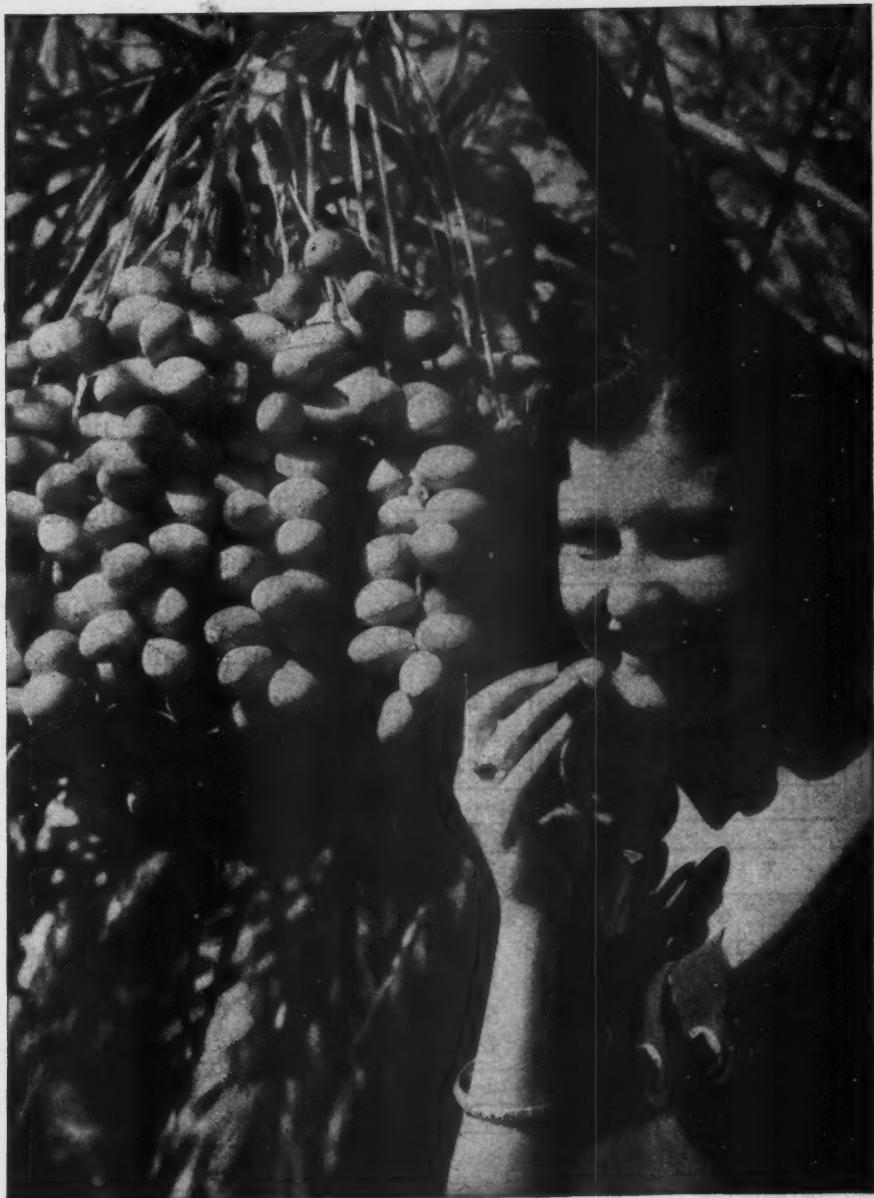
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THE
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Firestone GROUND GRIP TIRES WILL PULL YOU THROUGH-



REGARDLESS of WEATHER!

WITH these new Firestone Ground Grip Tires you can now go from one farm to another with no trouble at all, or you can drive into town no matter how bad the road conditions are. They will give Super-Traction in mud—snow—or soft ground—and you save time and money as you do not need chains.

No farmer can afford to be without a set of these new Firestone Ground Grip Tires this winter for his car or truck.

See your nearby Firestone Auto Supply and Service Store or Firestone Tire Dealer today and end your winter driving troubles. Specify these new Firestone Ground Grip Tires on the new tractor you are buying.

FOR CARS

	HEAVY DUTY
4.40/4.50/4.75-21	\$7.85
4.75/5.00-19	8.50
4.50/4.75/5.00-20	8.35
5.25/5.50-17	10.55
5.25/5.50-18	10.65
6.00-16	11.95
	\$ 9.80
	10.60
	10.35
	12.50
	12.75
	14.15

Other Sizes Priced Proportionately Low

FOR TRUCKS

32x6 Truck Type	\$27.65	7.50-20	\$35.20
32x6 H.D. 36.25		7.50-24	39.00
6.00-20.. 16.95		8.25-20	49.30
6.50-20.. 21.95		8.25-24	54.75
7.00-20.. 29.10		9.00-20	60.75

Other Sizes Priced Proportionately Low

FOR TRACTORS

GROUND GRIP TYPE	CHEVRON TYPE
5.50-16	\$11.05
7.50-18	17.45
9.00-36	73.95
11.25-24	66.60
	5.50-16 \$ 9.40
	7.50-18 14.85
	9.00-36 62.85
	11.25-24 56.60

Other Sizes Priced Proportionately Low

Listen to the Voice of Firestone featuring Richard Crooks, Nelson Eddy, Margaret Speaks, Monday evenings over Nationwide N. B. C.—WEAF Network

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NOVEMBER,

American FRUIT GROWER

NOVEMBER Vol. 55

(Title Registered in U.S. Patent Office)

No. 11 1935

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NOVEMBER, 1935

New York

AMERICAN FRUIT GROWER

PAGE 3

GOOD FRUIT FOR STORAGE

WHICH fruit should I place in storage? Should I sell the good fruit on the market now and get the best price possible and put the remainder of the crop in storage, no matter what the condition of it is? If I place the good fruit in storage will it bring as good a price later in the season as it would now? Shall I sell now, get what I can, and not have to worry about marketing until next season?

Such questions as the above must be met with each season by the orchard operator. They become increasingly pertinent in such seasons as the present when the handling of a peak crop becomes the problem of all fruit growers.

We sincerely believe that the philosophy of some growers in taking their best fruit to the glutted market to obtain the best possible price and then placing their poor fruit in storage is contradictory to the best practices. When a grower has expended all of the resources that he commands, time, money and personal ability, for the optimum production of his crop the greatest care and discretion in his marketing procedure is not too much if he is to obtain a monetary return logically above his cost of production.

If the poorer grades were placed in storage and the good fruit placed on the market at whatever price is available, the result would undoubtedly be a lower price during the entire season. In some cases the storage is looked upon as the dumping ground for the surplus after the harvest marketing has been completed. In addition to bringing lower prices this would stifle consumer demand which we are constantly striving to maintain.

Physiological diseases show their ravages enough on good fruit in storage and would be more damaging if the fruit were poor when placed in the storage. This factor alone might easily result in the loss of the entire storage holding and would give no return for the added expense of operating the storage.

The entire problem is one that must be settled by the operator and the decision should be made only after a complete study of local conditions. However, it is our firm contention that for best results from the added care and costs of storage operation, only good, sound fruit should be placed in storage.

The
CAMERA PRESENTS
A PICTORIAL REVIEW
 of the
FRUIT
WORLD



"The Champion Girl Apple Picker of Maine," Miss Anne Holms of Augusta, was winner in this contest held recently under the direction of the Maine Department of Agriculture.



Fruit harvest on the cranberry bogs of New England. This worker is gathering the fruit with a cranberry harvest rake. Photo courtesy American Cranberry Exchange.

PAGE 4



The modernistic trend invades the truck advertising of Lake Erie Farm Orchard, Painesville, Ohio. This truck catches the eye and H. L. Mantle, a member of the orchard company, says that the cost for painting is no more than the regular type of finish. (See story on page 8.)

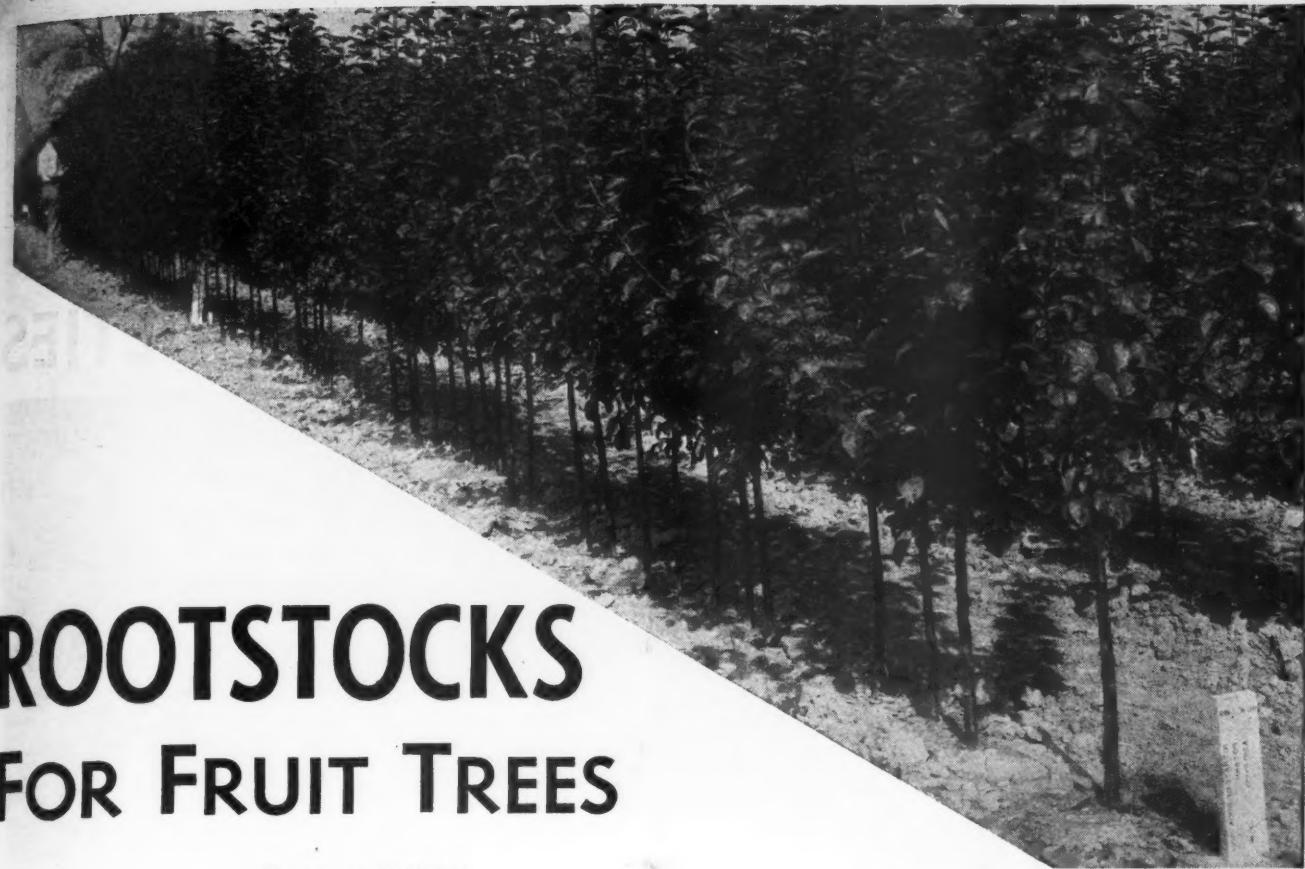
AMERICAN FRUIT GROWER

NOVEMBER, 1935

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NOVEMBER,



ROOTSTOCKS FOR FRUIT TREES

By H. B. TUKEY

Chief in Research, New York State
Agricultural Experiment Station

AS one after another the various limiting factors in fruit production are met and conquered, another steps up to take its place. The pollination problem, once most serious in many orchards, is now fairly well understood. Insects and diseases, although constantly threatening extermination of the industry, are under commercial control in the major fruit producing centers. Planting problems, fertilizers, humus supply, irrigation, frost protection, fruit storage, transportation—as each problem is met the next most important problem steps up to

take its place. And this is where the main thesis of this article begins, namely, that there are fruit growers and horticulturists who feel that the rootstock problem is about to launch itself upon us with renewed energy.

Of course, a fruit tree, unlike a corn plant or a tomato plant, is made up of two parts growing together as one. That is, onto a rootstock of more or less hit-or-miss derivation is propagated the desired variety by budding and by grafting. What are these rootstocks? From where do they come? What is their performance record? Can they be improved upon?

The first thought that naturally arises in the mind is, "Why not propagate fruit trees from cuttings or by some such means as to get them on their own roots?" Such a practice would eliminate certain phases of the rootstock problem at once. Unfortunately, although dozens of attempts have been made to solve this problem, it is almost a general rule that horticultural varieties of the hardy fruits will not propagate from cuttings. The Kieffer pear is a notable exception and roots readily from cuttings in the South. Furthermore, Kieffer on its own roots is a far better article than Kieffer on French pear roots as commonly produced. But this is one of the exceptions to prove the rule. Furthermore, as Dr. J. K. Shaw of Massachusetts has shown, a variety on its own roots is not necessarily an improvement.

The net result is that nurserymen have been forced to fall back upon almost anything that will propagate readily and which can be used as a rootstock upon which to bud and

(Continued on page 13)



Fig. 2. Budding a block of seedling apple rootstocks in a western New York nursery.



THE NEW DEAL IN GRAPE VARIETIES



By FRED E. GLADWIN

PART II
WE SHALL now consider a second rather recent grape development that has likewise won a place in eastern viticulture. The Ontario, another white variety, was tested along with Portland and several others. It was recognized as an outstanding sort from the very beginning, although it was tested for several years before it was finally given the stamp of approval.

Ontario is entirely different from Portland and all other known white varieties. While it is of about the same season as Portland, its very high quality is appreciated by those who are not satisfied with that of Portland. Probably its quality is surpassed by no other native grape, except Delaware. Sweet to the palate, it nevertheless possesses a sprightly flavor that is very satisfying. In fact, its sugar content is normally considerably higher than that of Portland, but its higher acid gives the impression that it is below the latter in this content. Ontario, like Portland, takes on a fine golden yellow when fully ripe, and as it is early in maturing, this stage is reached year in and year out.

A single sampling of Ontario is all that is necessary to consummate a sale if the prospect has not before tasted it. We have had five or more

Fred E. Gladwin, Viticulturist of the New York Agricultural Experiment Station, has been engaged in research with grapes for 25 years and has introduced many varieties of exceptional merit.

repeat orders for Ontario from a distant point as a result of a single purchase. In fact, one colony of summer residents exhausted our supply as a result of a roadside sale to a family from the Chautauqua Assembly Grounds.

The variety is vigorous and productive. The clusters are large, with medium sized berries. The berries are not so closely placed on the cluster as Portland, but it cannot be classed as straggly. Ontario has a skin better adapted for shipping distances than Portland, yet it is utilized to best advantage within easy trucking distance from its origin.

While the variety was introduced as a dessert sort, it has been learned during the past few seasons that it ranks at the top for juice purposes. In fact it has been classed by those qualified to speak as the outstanding white juice grape among American grapes, and second to none in the Old World species. Ontario should be more closely pruned than Concord or Niagara, and this likewise applies to Portland.

While we are discussing white varieties, another that has been more recently added to the viticultural list should be mentioned. Golden Muscat, as its name implies, is of a golden yellow color when full ripe. Its name further indicates that it contains some of the blood of the Old World, and so it does. The cluster is very large, far larger than Niagara, and the berries are above normal. The cluster is compact. The flesh is tender and possesses a distinct flavor, characteristic of the Muscat type of grapes. The variety is productive and vigorous, but it is rather late in reaching the maturity stage. It also seems rather particular in its soil and climatic requirements. In New York it does not reach the stage of perfection that it does in parts of Illinois and Indiana. In view of this, one must test it carefully for his section before engaging in growing it on a commercial scale. It also has shown less resistance to winter cold than either Ontario or Portland, and winter temperatures should be considered, unless one is prepared to give winter protection. Golden Muscat is too tender for shipping long distances. But where it can be grown, no difficulty should be encountered in disposing of any surplus locally.

(Continued on page 9)

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NOVEMBER,

The editors of AMERICAN FRUIT GROWER acknowledge the aid of Morris L. Cooke, administrator of the REA, and M. L. Ramsay, his assistant, for material used in the following article, for we believe every reader is interested in

ELECTRIFICATION ON THE FRUIT FARM

ELECTRICITY for the fruit farm! This statement may become a reality for fruit growers in all parts of the country, since the present congress has authorized the use of \$100,000,000 of the work relief funds for the extension of rural electric distribution lines, and President Roosevelt has created the Rural Electrification Administration to administer the program.

There is a definite place for electricity on the fruit farm. While it is true that many orchards are equipped with electricity, there are just as many and more that are not. In the past, appliances and power units would have been used to a great extent had the necessary electricity been available.

Of the host of uses for electricity on the fruit farm, perhaps the most important is in pumping water. Agricultural engineers have agreed that electricity is the most dependable and efficient source of power for pumping water. One of the first acts of a grower when he obtains electric power is to buy an electric pump.

In addition to aiding in many of the fruit farm operations, running water brings modern comforts and sanitation to the home.

Since the government has raised

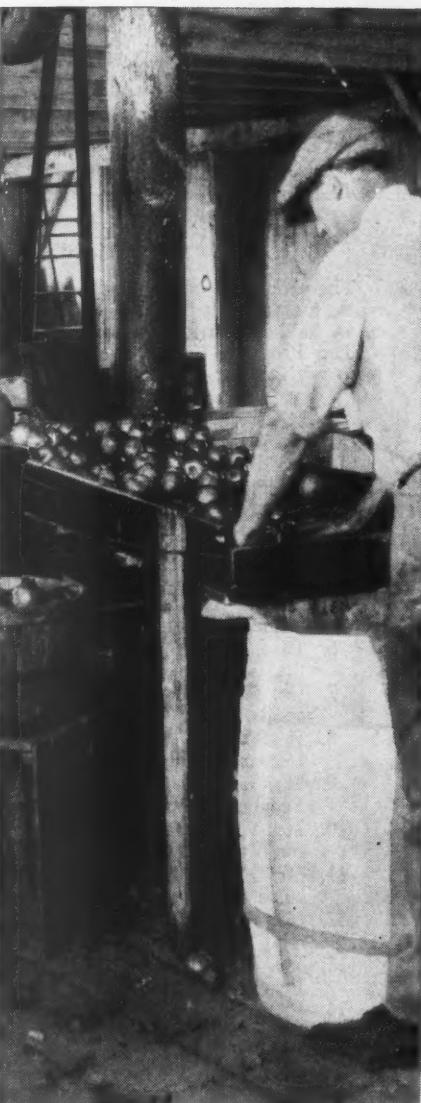
the tolerance on fruit having lead, arsenic and fluorine residues, the water needs of the commercial fruit producer have reached a new high. Authoritative literature on this subject is unanimous in the recommendation that only fresh water be used in the rinse for best results. The amounts of water to be added for the rinsing vary from two to four gallons per bushel. From the latter figure, it is at once evident that great amounts of water are needed for the washing of the crops of even the smaller producers.

The rapid rise of irrigation in sections of the country where this practice was not thought of some years ago is another of the important uses of water in large amounts on the fruit farm. The electric pump is especially adapted to the steady supply of water for this operation.

A Shenandoah Valley grower reported that he installed a complete

(Continued on page 12)

Right—This small electric motor operates the grader and cleaner, while electric lights furnish illumination for a longer working day, so necessary during the busy harvest season. Below—Water used to irrigate these strawberries was pumped into the lines with electric power.



AMERICAN POMOLOGY

*A Page Conducted in the Interests of the
American Pomological Society*

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Edited by H. L. LANTZ, Secretary

CONVENTION PROGRAM

The program for the joint convention of the American Pomological Society with the Connecticut Pomological Society and other New England states, to be held in Hartford, Conn., December 10-13, is virtually complete. The Program Committee has the acceptance of the following speakers who will appear on the program.

1. Dr. W. A. Ruth, Urbana, Ill. "Research Program with Spray Residues."
2. Dr. F. P. Cullinan, U.S.D.A., Washington, D. C. "Recent Experimental Discoveries in Peach Investigations."
3. Prof. George F. Potter, Durham, N. H. "A Summary of Soil Management Experiments in Apple Orchards."
4. Mr. R. G. Phillips, secretary, International Apple Association, Rochester, N. Y. "Recovering our Export Markets."
5. Mr. E. W. J. Hearty, New York, N. Y. "Trends in Big City Fruit Marketing."
6. Prof. B. S. Pickett, president, A.P.S., Ames, Iowa. "Increasing the Consumption of Apples."
7. Dr. H. E. Barnard, secretary, National Apple Institute, Indianapolis, Ind. "The National Apple Institute."
8. Prof. R. A. Van Meter, Amherst, Mass. "The Significance of Research with Problems in Spray Residue."
9. Mr. George A. Drew, Westford, Mass. "Spraying Pears and Peaches."
10. Mr. Walter R. Clark, Milton, N. Y. "Selling Apples in the Hudson Valley."
11. Dr. H. B. Tukey, Geneva, N. Y. "Accomplishments in Horticultural Research."
12. Mr. Sheldon W. Funk, Pennsylvania. "Commercial Peach Growing."
13. Mr. E. M. Stoddard, New Haven, Conn. "The 'X' Disease of Peaches."
14. Prof. A. J. Farley, New Brunswick, N. J. "Soil Organic Matter." Discussion led by W. H. Darrow, Vermont; H. M. Rogers, South-G. A. Drew, Massachusetts.
15. Storage Construction and Management, by John Chandler, Massachusetts; A. T. Henry, Connecticut; Joe Sullivan, Vermont. Other probable speakers are George M. Darrow, U.S.D.A., Washington, D.C., On Small Fruits. C. P. Close, U.S.D.A., Washington, D. C. New Fruit Lists. Dr. M. J. Dorsey, Urbana, Ill. Codes of Nomenclature. Senator Harry F. Byrd, Winchester, Va. Dr. Phillip Garman, New Haven, Conn. W. S. Campfield, Staunton, Va.

National Apple Institute

The executive officers of the National Apple Institute are much encouraged by the wide acceptance on the part of the great metropolitan newspapers and magazines of the clip sheet service offered by the N. A. I. President Pickett reports that news organs with a combined circulation of 27,000,000 readers have accepted and made use of the clip sheet and have asked for a continuance of the service. These clip sheets are compiled by Secretary H. E. Barnard, Indianapolis, Ind., mailed periodically, and contain crisp, up-to-date items concerning the many uses of apples, in an effort to stimulate new consumer interest in this fruit.

Advertising

The following is taken from Prof. F. H. Beach's Monthly News Letter to members of the Ohio State Horticultural Society. And by the way, Prof. Beach's news letters are full of up-to-the-minute items of interest to fruit growers every month.

"Here's a good tip from H. L. Mantle of the Lake Erie Farm Orchard, Painesville, Ohio. His trucks run around Cleveland most of the time. He has painted in bright colors on these trucks his slogan, 'Ohio Apples Kissed by the Breezes of Lake Erie Taste Best.' He is getting a lot of favorable comment on his truck advertising. Most Ohio folks think Ohio apples taste better

AMERICAN FRUIT GROWER

than apples shipped in from other states. More signs like these on Mantle's trucks would make them realize it more and ask for Ohio apples more. Those of you who operate trucks have a wonderful opportunity to call attention to the delicious flavor of Ohio apples."

Many growers will take this tip from our Ohio friends. What is good for Ohio folks certainly might be good for growers and consumers in other states. Out in Iowa, Robert M. Clark, president of the Iowa State Horticultural Society, advertises "Apples with that Iowa flavor."

The Agricultural Situation

I wonder how many of our readers are familiar with the monthly bulletin issued by the Bureau of Agricultural Economics of the U.S.D.A., entitled "The Agricultural Situation." This bulletin contains 24 pages and is a brief summary of economic conditions. In it fruit growers will find a most able presentation of those economic factors which have a direct bearing upon their business. Brief reviews of all phases of agriculture are given, and the fruit and vegetable situation is always given a prominent place. George B. Fiske writes in the October issue as follows:

"Apples Start Lower

"Prices of apples have followed a generally lower level the early part of this season as compared with last year. The main market season was comparatively late getting under way. The crop is larger than last season but includes considerable defective fruit, and the quantity of market apples is expected to be close to average. The weight of production is in the East, Middle West, and South, which means that much low-grade fruit will be near the large markets and can be sold. The situation is not very favorable to a high general level of apple prices. Fruit was sizing well in September. Apples were coloring better in the Northwest after cooler weather. Prices late in the month ranged mostly 50 cents to \$1 a bushel in city markets and 50 to 75 cents at eastern and midwestern shipping points. A year ago the general price range of basket pack in the cities was \$1 to \$1.35. Jonathans started in the Pacific Northwest at 90 cents a box for extra fancy but Wine-saps and Delicious sold above \$1.

"Early exports to English markets brought net returns above the domestic market level, but Canadian competition was increasing, favored by tariff preference. Some contract buying for future delivery was reported in Virginia and West Virginia, mostly a little below \$3 for such storage varieties as Stayman and York. Expectation of good demand, possibly at higher prices during the storage season, was based on the light fruit crops in Europe and the improved business conditions this year in the United States and in some other countries."

NOVEMBER, 1935

NOVEMBER,

NEW DEAL in GRAPES

(Continued from page 6)

The fourth and last variety that will be considered in this article is the rather recent introduction, the Fredonia, so named from its place of birth. This early blue variety is fast superseding Champion, Daisy, Moore Early and Worden. In parts of the United States it is even used to supplant Concord.

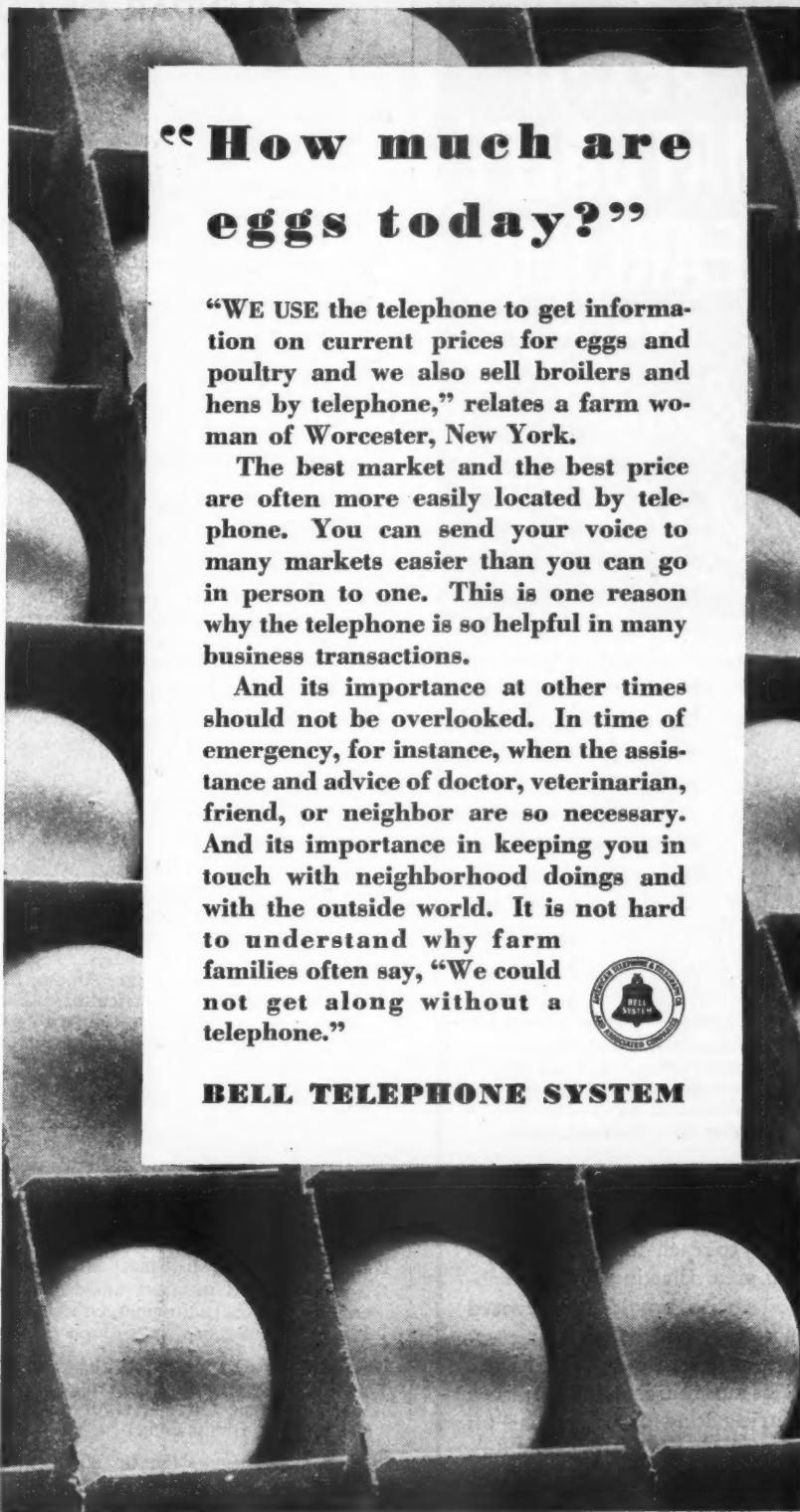
Born of rather poor parents, poor at least insofar as Champion and Lucile could be considered as good dessert sorts or, in fact, for any other use, Fredonia is fast making its way strictly on its merits as a superior early commercial variety. Its season coincides with that of Moore, and it is 10 days earlier than Worden. It is very fruitful; yields as high as five tons to the acre have been harvested, while adjoining Concord was producing three tons. It is more vigorous than any of our well-known commercial sorts, and it has the great advantage of being easy to propagate. The clusters of Fredonia are above normal in size, made up of very large berries. When the blossoms of Fredonia are just set, it would seem that the cluster is to be somewhat straggly, but as the berries approach the eating stage, it will be seen that another berry could not possibly form on the pedicels.

Perhaps the quality of Fredonia is not quite equal to that of Concord, yet many grape men have declared that they would eat it as readily as Concord. At any rate, it is superior to Daisy, Moore and Worden. Since it matures early, ripeness is assured in practically every season.

There is nothing more handsome in the grape line than a cluster of Fredonia with its heavy bloom. We have stressed the earliness of the variety, and yet it will hang on the vine in good eating condition when the last of the Concord are being harvested. In all of our experiences with thousands of seedlings and varieties, no other has been noted that possesses this character. This adds to its value as a commercial sort, since if the market for early maturing grapes is not strong, Fredonia can still be harvested as a mid-season grape.

Of all the varieties herein discussed, Fredonia, because of its thick skin, is best adapted for distant shipping. There will be better quality grapes introduced in the future, but it is going to be a long time before one that possesses so many commercial characters will be available.

There is a dearth of good red varieties in our catalog of new grapes. Dunkirk and Hanover are good juice sorts, but their best growth requires longer seasons than maintain in most sections of New York. Both are quite subject to the mildews, hence



"How much are eggs today?"

"WE USE the telephone to get information on current prices for eggs and poultry and we also sell broilers and hens by telephone," relates a farm woman of Worcester, New York.

The best market and the best price are often more easily located by telephone. You can send your voice to many markets easier than you can go in person to one. This is one reason why the telephone is so helpful in many business transactions.

And its importance at other times should not be overlooked. In time of emergency, for instance, when the assistance and advice of doctor, veterinarian, friend, or neighbor are so necessary. And its importance in keeping you in touch with neighborhood doings and with the outside world. It is not hard to understand why farm families often say, "We could not get along without a telephone."



BELL TELEPHONE SYSTEM

must be sprayed regularly. Several red seedlings are now under test, and it now seems quite likely that within the next few years the problem of good red sorts will be at least partially solved, as several offer much promise.

If one contemplates the planting of a commercial vineyard in the near future, it would seem the part of wisdom to look carefully into the possibilities of some of the varieties here mentioned, for they all fit in nicely in eastern grape culture. There surely are no indications that the usage of Concord will be increased for many years to come.

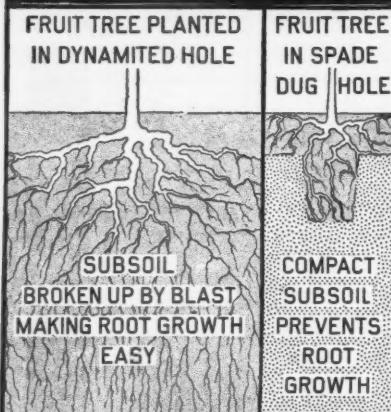
Write us for prices on the new varieties of Grapes—Portland, Fredonia, Ontario, Golden Muscat and others; also the Patented Candoka peach. Free illustrated catalog of fruits, ornamentals and shrubs on request. Be sure to write for it.

THE COLE NURSERY CO., Painesville, Ohio
600 Acres
Established 1881

Ornamental Apples

Ornamental apples and crabapples are becoming very popular trees for ornamental planting. There are about 70 kinds of these wild species, nearly all of which are obtainable from American nurserymen. Flowering crabs are especially desirable for use as specimen trees or shrubs on the lawn, as well as for use in border and background plantings.

ORCHARDS REACH Maturity Earlier WHEN planted in Blasted soil



Comparative sketch showing deeper feeding area caused by blasting soil. Note healthy, far-reaching root system ensuring rapid, vigorous growth.

TREES grow faster when the fibrous roots have plenty of room to reach out into rich feeding area. Blasting shatters subsoil strata, providing increased porosity of soil and enabling surface water to penetrate deeply. This moisture supply is preserved during long dry seasons—an added advantage in the all-important first year when the tree is fighting for its existence.

Planting trees in blasted soil saves time—reduces losses—insures speedier maturity and improved production.

If you are planning to enlarge your orchards or plant new ones, write us for complete details of how to prepare subsoil by use of explosives.

E. I. DU PONT DE NEMOURS & CO., INC.
Agricultural Extension Section
Wilmington, Del.



CALENDAR OF COMING FRUIT MEETINGS AND EXHIBITS

Nov. 5-7—West Virginia State Horticultural Society Apple Show, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.

Nov. 12-14—Minnesota State Horticultural Society and Minnesota Fruit Growers' Assn. annual meetings and exhibits, Hotel New Duluth, Duluth.—R. S. Mackintosh, Sec'y, Hort. Society, St. Paul; J. D. Winter, Sec'y, Fruit Growers' Assn., 786 Eustis St., St. Paul.

Nov. 14-15—Oregon State Horticultural Society 50th Anniversary meeting, Corvallis.—O. T. McWhorter, Sec'y, Corvallis.

Nov. 14-15—Wisconsin State Horticultural Society annual convention, Schroeder Hotel, Milwaukee.—H. J. Rahmlow, Sec'y, 1532 University Ave., Madison.

Nov. 16-17—Oklahoma Horticultural Show, Stillwater, sponsored by students in Horticultural Department, Oklahoma A. & M. College.—Louise Perrin, Sec'y, Tulsa.

Nov. 19-21—Maine State Pomological Society annual meeting and exhibition, Armory, Lewiston.—E. L. White, Sec'y, Bowdoinham.

Nov. 20-21—Tennessee State Horticultural Society annual convention, Cherokee Hotel, Cleveland.—G. M. Bentley, Sec'y, Knoxville.

Nov. 21-23—Iowa State Horticultural Society 70th annual convention, 24th annual convention Iowa Fruit Growers' Assn., and several other societies, Memorial Union, Iowa State College, Ames. Little Mid-West Student Horticultural Exposition to be held in connection with meetings.—R. S. Herrick, Sec'y, State House, Des Moines.

Dec. 3-5—Missouri Valley Apple Exposition, sponsored by Missouri River Apple Growers, St. Joseph Chamber of Commerce, and horticultural societies of Missouri, Kansas, Nebraska and Iowa, St. Joseph, Mo.—W. R. Martin, Jr., Sec'y, Mo. Hort. Society, Columbia.

Dec. 3-5—Michigan State Horticultural Society annual meeting, apple show and exhibits, Civic Auditorium, Grand Rapids. H. D. Hootman, Sec'y, East Lansing.

Dec. 3-5—New Jersey State Horticultural Society annual meeting, Haddon Hall, Atlantic City.—Arthur J. Farley, Sec'y, New Brunswick.

Dec. 5-6—Kentucky State Horticultural Society 80th annual meeting, with College of Agriculture co-operating, Seelbach Hotel, Louisville.—W. W. Magill, Field Agent in Horticulture, College of Agriculture, Lexington.

Dec. 9-11—Washington State Horticultural Assn. meeting, Wenatchee.—C. L. Vincent, Sec'y, Pullman.

Dec. 10-12—Virginia State Horticultural Society 40th annual meeting and exhibit, Hotel Roanoke, Roanoke.—W. S. Campfield, Sec'y, Staunton.

Dec. 10-13—American Pomological Society 51st convention, in joint session with Connecticut Pomological Society and in co-operation with New England and New York Horticultural Societies, Hartford Armory, Hartford, Conn.—H. L. Lantz, Sec'y, Ames, Iowa.

Dec. 11-13—Illinois State Horticultural Society annual meeting and exhibits, State Armory, Decatur.—Joe B. Hale, Sec'y, Salem.

Dec. 13-14—Montana Horticultural Society, Polson.—Geo. L. Knight, Sec'y, Missoula.

Dec. 18-20—Peninsula Horticultural Society meeting, fruit and commercial exhibits, Bridgeville.—J. F. Adams, Sec'y, Box 425, Newark, Del.

Jan. 7-9—Maryland State Horticultural Society annual meeting, Horticultural Bldg., University of Maryland, College Park.—A. F. Vierheller, Sec'y, College Park.

Jan. 7-9—Nebraska State Horticultural Society winter meeting, College of Agriculture, Lincoln.—E. H. Hoppert, Sec'y, Lincoln.

Jan. 8-10—Massachusetts Fruit Growers' Assn. annual meeting, Memorial Auditorium, Worcester.—Wm. R. Cole, Sec'y, Amherst.

Jan. 14-17—New York State Horticultural Society 81st annual meeting and commercial exhibit, Rochester.—Roy P. McPherson, Sec'y, LeRoy.

Jan. 15-16—South Dakota State Horticultural Society winter meeting, Aberdeen.—W. A. Simmons, Sec'y, Court House, Sioux Falls.

Jan. 16—Vermont State Horticultural Society meeting in co-operation with Union Agricultural Society, Burlington.—M. B. Cummings, Sec'y, Burlington.

Jan. 20-21—Pennsylvania State Horticultural Assn. winter meeting, in conjunction with Pennsylvania Farm Show, Harrisburg.—R. H. Sudds, Sec'y, State College.

Jan. 21-23—Indiana Horticultural Society meeting and orchard supply exhibit, Manufacturer's Bldg., State Fair Grounds, Indianapolis.—Everett Wright, Sec'y, Lafayette.

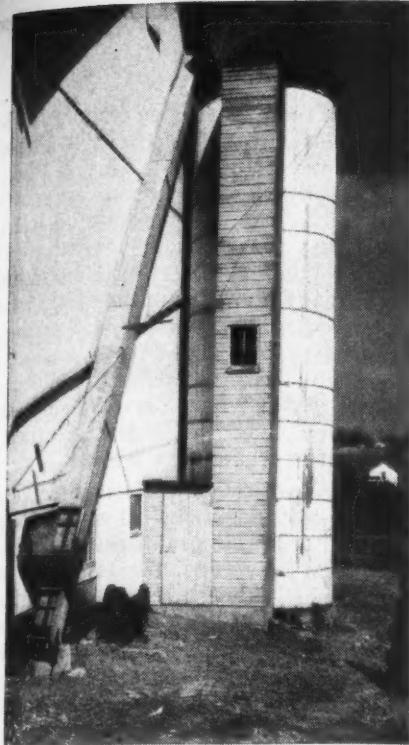
Jan. 27-Feb. 1—Ohio State Horticultural Society annual meeting, Columbus, during Farmers' Week.—F. H. Beach, Sec'y, Columbus.

Jan. 29-31—New York State Horticultural Society Eastern Meeting and commercial exhibit, Kingston.—Roy P. McPherson, Sec'y, LeRoy.

New Raspberry Named

AMONG the many new fruits reported upon at the recent meeting of the New York State Fruit Testing Association at the Experiment Station at Geneva was a new red raspberry seedling which is to be known as the "Taylor" in honor of the late Prof. O. M. Taylor who was for many years in charge of the small fruit investigations at the station. Prof. Taylor named and introduced the June and Ontario red raspberries, as well as many other small fruits, and imported from England the Lloyd George raspberry that has since become the parent of an unusually fine lot of seedlings, several of which may eventually be introduced.

One of these crosses made in 1925 between Newman and Lloyd George has now been named the Taylor and will be introduced this fall by the fruit testing association, although planting stocks are somewhat limited to meet the anticipated demand for this new variety. The association propagates planting stocks of the new varieties of fruit originating on the station grounds and distributes them at a nominal cost.



A silo filler adapted to care for apple pomace. The owner of this outfit says that the pomace can be mixed with other types of silage without danger of loss and that he has been using the pomace as a supplemental feed for several seasons with good results.

EXTRA PROFITS *from*

POMACE

By WILLIAM H. ZIPF

FROM apple canneries, vinegar factories and cider presses in all fruit-producing sections of the country thousands of tons of apple pomace have annually been thrown on the waste heaps to be weathered away by the elements. From these same sections now come reports of a new and profitable use of this product which was formerly a waste and often a liability when it had to be hauled long distances for sanitary disposal.

Where the manufacture of imitation apple jelly is practiced, pomace is used in this product. Jelly production plants are located in specialized areas and are not general. The manufacturing process requires special equipment and the plants must be located in regions of abundant pomace supply. Hence, in most sections apple pomace has been completely a waste often left in a heap, until the odor and quantity became undesirable, and then hauled to the dump.

In seeking a use for this by-product the research departments of many agricultural experiment stations and colleges discovered that pomace was ideal as a supplementary feed for dairy cattle.

No doubt some enterprising dairyman or orchardist had this same idea in years past, but when the dairyman fed the pomace to his stock their production fell off and the venture was given up in haste. This unfavorable situation was probably caused when the animals were fed pomace exclusively during the period that it was

available in large amounts. Research men engaged with this problem tell us that the pomace is high in carbohydrates and, when fed alone, the milk production of the animals is impaired due to the unbalanced diet.

As it comes from the press apple pomace is high in moisture content. At Washington State College workers have dried the pomace in a rotary steam dryer which allowed them to ship the dried product without spoilage.

The Washington workers then conducted experiments on the feeding of this dried product to stock and found that it gave excellent results at a sav-

Except in a few sections of the country where imitation apple jelly is made, a pile of pomace such as that shown below would be a liability in that the by-products producer would have to dispose of it or allow it to rot.



ing to the dairymen and also brought a return to the apple or cider producers which was not previously possible.

Quick, efficient drying is possible only when the necessary equipment is available. Such a dryer as that used at Washington State College or any of the usual types of dryers are satisfactory for drying of pomace. In addition to the better shipping and keeping qualities, the pomace is more readily mixed with ground feeds when in the dry condition and requires a much smaller space for storage. However, if the necessary facilities for drying are not at hand, the pomace, just as it comes from the presses, has the same feeding value although more space is required and there may be slight spoilage in storage.

At the Ohio Agricultural Experiment Station the pomace was stored in metal drums two to three months before it was used. At the time the drums were opened there was only a slight loss from surface spoilage and a small amount of discoloration where the pomace had come in contact with the iron sides of the containers. This was the product just as it came from the presses and not the dried form mentioned above. The Ohio station also found that the pomace is similar to corn silage in animal nutrient content. When the pomace is stored in drums it is necessary to thoroughly tamp the pomace into the containers.

When placed in a silo the pomace is equal, in keeping quality, to other general types of ensilage. One dairyman has devised a novel silo filler for use with pomace. Pomace can be mixed with ensilage for the regular periods without loss. If the pomace is to be used for feeding, it is suggested that it not be allowed to stand unprotected for long periods during warm weather. Such a practice will allow insects and fungi to breed and when pomace infested with insect eggs and fungous growth is placed in the silo or container trouble will follow.

For the apple producer who has dairymen near by the sale of this pomace constitutes an added revenue from his cider production endeavor and removes the problem of disposing of the pomace.

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system of surface irrigation for 60 acres of his apple orchard, a 40 horsepower motor pumping against a head of 110 feet. This grower has an assured market for his highest quality standard pack. In the dry year of 1929, irrigation resulted in over two-thirds of his fruit grading $3\frac{1}{4}$ inches or larger, while in 1928, considered a normal year for moisture (no irrigating being done) most of the fruit graded in the smaller classes. In 1930, probably the driest year on record in that section, the crop left by a bad frost was matured with irrigation into smooth and well-colored fruit of exceptional size, while all of his unirrigated fruit went into a car of ciders.

It is conceded that spraying is the key operation on the modern fruit farm. With the timeliness of spray applications becoming increasingly important, the steady supply of water is an important factor. The larger producer must maintain refill tanks about the orchard and this necessitates the pumping of large amounts of water to keep them filled.

There are many ways to use a portable electric motor on a fruit farm. It will operate a fruit grader and furnish power for a spray gun for painting the buildings. It will mix concrete, saw wood and freeze ice cream.

Dependable electric refrigeration will maintain any desired temperature in a fruit storage.

In initiating a project, it isn't necessary to engage the service of a professional man as adviser, engineer or go-between. Where there are a sub-

FRUIT FARM ELECTRIFICATION

(Continued from page 7)

stantial number of growers in a locality which has no electricity available now, and they feel a line in their neighborhood would be self-supporting, all they need do is write to REA at Washington—there are no field offices—telling the Administration how many there are in the group who want the line, about how much they can spend each month for current and for appliances, where they could get electricity at wholesale, how long the line would need to be to serve them, and other preliminary facts.

If a project proves feasible, the REA will lend money for constructing a rural line. No grants are made, but the loan may equal the total cost of the line. Almost any organization may apply for a loan. Private utilities are well represented among the applicants. REA gives preference, however, to projects sponsored by farmers' co-operative groups, by municipal plants, or by other public bodies, such as power districts.

The loans will have to be paid off over a period of 20 years, with interest at only three per cent. In most cases the line itself will be adequate security for the loan, and in no case will a farmer be required to undertake any personal financial liability to have the line built with REA funds.

Many other factors enter into the picture. REA engineers believe, however, that a line built to serve an average of three consumers to the mile at an average cost of about \$1,000 per mile will furnish satisfactory service.

Recognizing this situation, the Government has just effected a reorganization of the Electric Home and Farm Authority—EHFA. That body was first organized in the Tennessee Valley, where it operated for more than a year with a great deal of success. It bought up installment contracts made between regular dealers and individual purchasers of four major household appliances. These contracts were made with lower carrying charges and longer repayment periods than were generally available in similar transactions up to that time.

With the reorganization, EHFA is extending its operation not only to embrace every section of the country, but also to include house wiring, plumbing, sanitary fixtures, and some items of household and farm electrical equipment not previously handled.

That's what the Government is doing in the work of extending rural electrification to farms not now served. Pamphlets have been prepared by REA explaining the program in detail. They will be furnished on request to anyone interested. Write to the Rural Electrification Administration, Washington D.C.



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Fig. 3. A portion of the Hitchings' orchards in western New York, on seedling rootstocks—note general appearance of uniformity.

ROOTSTOCKS FOR FRUIT TREES

(Continued from page 5)

graft the desired variety. This need has been filled mostly by rootstocks raised from seed—so-called "seedling rootstocks" (Fig. 2). Production of seedlings is in the hands of a few experts in this line, most of the stocks being raised in Kansas, Iowa and Colorado in the Middle West, and in Oregon and Washington on the Pacific Coast.

Speaking in general terms and more or less commercially, apple seed imported from France and known as "French Crab" has been used to produce seedling apple rootstocks. In fact, barring some of the hardy apple seedlings in the north Central States, most of the apple orchards in America are on French Crab seedling roots (Fig. 1).

For the pear, pear seed also from France, known as "French Pear" has been most used. To be sure, the last 20 years has seen some seedlings of oriental pears, such as Ussuriensis, Calleryana and Serotina (Japanese pear), yet by and large, most commercial pear orchards are on French pear roots.

For the cherry, two seedling supplies have been used, namely, the wild sweet cherry or "Mazzard" as it is called, and the perfume cherry of Europe or "Mahaleb." The Mazzard has been used quite freely for sweet cherries, while the Mahaleb has until recently been used almost exclusively for sour cherries and to some extent for the sweet cherry as well.

For the European type plums, seedlings of the cherry plum or "Myrobalan" have been used. A limited quantity of hardy seedlings from native plums, some peach seedlings and some rootstocks raised from cuttings of the Marianna plum have also been used, but not in a large way. Practically speaking, plum trees in America are on Myrobalan roots.

For the peach, seedlings have been raised from seed of wild peaches

found in the mountains of the Carolinas, Tennessee and Kentucky, known as "naturals." More recently, peach seed of certain cultivated varieties of peaches has been used, such as Muir and Lovell.

Now, it goes without saying that these seedling rootstocks have not been perfect in answering the fruit tree rootstock problem. Yet it must be admitted by anyone who has seen the great orchard sections of Yakima, Wenatchee, Hood River, Prosser, Medford, the Sacramento and San Joaquin and Santa Clara Valleys, the Ozarks, the Shenandoah-Cumberland section, and the major fruit sections of the Northeast, that the rootstocks that have been used upon which to produce America's supply of apples, pears, peaches, cherries, and plums have given a fairly good account of themselves (Fig. 3). But, having said that, the trouble begins, because there is no major fruit section where already growers are not beginning to find fault in a minor way with the rootstocks they use.

The Shenandoah-Cumberland section complains of root rots and wishes that a rootstock could be found which would be free from this trouble. Maine feels that apple rootstocks are not sufficiently hardy. Western New York would like to see a better cherry stock and does not feel satisfied with such large apple trees as she now grows. Pennsylvania seeks a hardier cherry rootstock. Another section finds nematodes a problem in peach roots, another finds blight resistance a desirable feature of a pear rootstock, and still another finds soil adaptability an important consideration in a rootstock. The Hudson River Valley feels that there is something wrong with the rootstock now in common use for the McIntosh variety, and so on down the list.

Part II will appear in the December issue.



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WHO'S WHO IN POMOLOGY • MICHIGAN •

The outstanding fruit producing state in the north-central section of the country, Michigan has many outstanding men engaged in the betterment of horticultural practices. Below is given a list of Michigan's horticultural workers who are constantly adding items to their collection of pomological accomplishments.

College of Agriculture and Agricultural Experiment Station at the Michigan State College of Agriculture and Applied Science, East Lansing.

Frederick C. Bradford, M.S., Associate Professor and Research Associate in Horticulture. Propagation of fruit trees, winter injury, fruit bud formation. Joint author: Fundamentals of Fruit Production; Orcharding.

Horace A. Cardinell, B.S., Research Associate in Horticulture. Publications: An Aftermath of Winter Injury; Eighty Winters in Michigan Orchards; Pruning Young Fruit Trees; Comparison of Methods of Making Spray Applications; Grafting in the Apple Orchard.

Donald Cation, M.S., Research Assistant in Plant Pathology, Fruit Diseases. Special interests: Peach virus diseases.

Walter C. Dutton, M.S., Research Associate in Horticulture. In charge of horticultural experiment station work with insecticides and fungicides and studies of spray residues and their removal.

V. R. Gardner, M.S., Horticulturist and Director Michigan Agricultural Experiment Station. Research work during past several years limited largely to a study of bud sports in deciduous fruits. Joint author: Fundamentals of Fruit Production; Orcharding. Author: The Cherry and Its Culture.

H. P. Gaston, M.S., Research Assistant in Horticulture. Conducting pruning investigations. Publications: Why a Cull Apple is a Cull; Roadside Marketing in Michigan; Consumer Demand for Apples in Michigan; Michigan Pear Industry.

Roy E. Gibson, South Haven. Discovered and propagated South Haven peach in 1916. Started systematic selection of buds based upon tree performance records in 1917. Began co-operative research and propagation tests with Michigan State College in 1925.

H. D. Hootman, Extension Specialist in Horticulture. Secretary Michigan State Horticultural Society.

Ray Hutson, M.S., Entomologist.

Stanley Johnston, M.S., Superintendent, Experiment Station, South Haven. In charge general experimental work. Special attention to peaches, pears, raspberries, strawberries and blueberries. Also publications on these subjects.

Robert E. Loree, M.S., Assistant Professor and Research Assistant in Horticulture. Special work on small

fruits. Publications: Nutrient Requirements of the Strawberry; Pruning the Red Raspberry; Strawberry Growing in Michigan; Raspberry Growing in Michigan.

Roy E. Marshall, Ph.D., Professor of Pomology and Research Associate. Fruit handling, fruit products, cold storage, pruning, pollination, and special raspberry investigations. Also publications on these subjects.

Newton L. Partridge, Ph.D., Research Assistant in Horticulture. Land evaluation and utilization for fruit growing; grape culture.

Glen L. Ricks, M.S., Extension Specialist in Horticulture. Special work in recent years: field research on pruning and spraying of apples. Publications: Thin Wood Method of Pruning Bearing Apple Trees; Success and Failure in Spraying for Scab and Codling Moth.

Franklin Sherman, III, M.S., Research Assistant in Entomology. Specializes in fruit insects.

Walter Toenjes, M.S., Superintendent, Graham Substation at Grand Rapids.

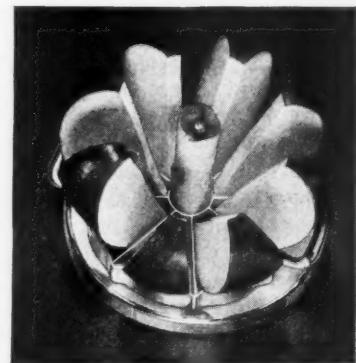
State Department of Agriculture, Lansing

E. C. Mandenburg, In charge of State Nursery and Fruit Inspection.

W. C. Geagley, State Chemist, in charge of enforcement of spray residue regulations.

State Horticultural Society

Arlie L. Hopkins, Bear Lake, President. J. A. Richards, Eau Claire, Vice President.



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Northern Nut Growers' Association Meets in Rockport, Indiana

THE Northern Nut Growers' Association held its 26th annual convention September 9 and 10, in Rockport, Ind. The unusually large attendance of more than 125 persons indicates the great interest shown locally in nut culture. The hospitality of the people of Rockport in entertaining the nut growers was unequalled in the history of the association.

Papers were presented on a diversity of nut topics, much emphasis being placed on varieties of nut trees, especially those for the middle northern zone. It was evident that there is considerable room for the improvement of the various nut varieties. C. A. Reed of the U.S.D.A., Prof. N. F. Drake of Fayetteville, Ark., and D. C. Snyder of Center Point, Iowa, discussed nut varieties from various angles.

Dr. W. C. Deming of Litchfield, Conn., chairman of the judging committee for the nut contest held by the association in the fall of 1934, presented the results of that contest. It was decided that a permanent contest committee be established to formulate and carry out a definite policy regarding future nut contests.

H. C. Neville and Prof. A. S. Colby of Illinois discussed the nut industry in that State, particularly in the southern portion where a thriving pecan industry, based chiefly on wild trees, is developing. Considerable progress in topworking wild trees to improved varieties is being made. These two men conducted a field trip to the large native pecan groves in Gallatin County, Illinois, near New Haven. This section produced a number of exceptionally fine pecans which won prizes in the nut contest, and visits were made to the prize-winning trees.

A field trip to nut plantings in the vicinity of Rockport was also conducted. The planting of Harry R. Weber, consisting of about 1000 walnut trees and 400 trees of pecans, hickories and filberts, illustrated the possibilities in growing these nuts in southern Indiana. In this planting lespedeza was being used successfully in the control of soil erosion and in building up the soil. The nursery of J. F. Wilkinson, a neat and attractive place, illustrated methods of producing nut trees. Mr. Wilkinson, one of the most skillful and successful propagators of nut trees in the country, demonstrated his method of budding, while John W. Hershey demonstrated grafting. A number of large bearing trees of the various named northern pecans and their hybrids were of especial interest.

The annual banquet, dedicated to T. P. Littlepage, Washington, D. C., and formerly of Rockport, was attended by more than 130 persons.

Officers elected for the ensuing year are Dr. G. A. Zimmerman, Harrisburg, Pa., president; J. F. Wilkinson, Rockport, Ind., vice-president; C. F. Walker, Cleveland Heights, Ohio, treasurer; G. L. Slate, Geneva, N. Y., secretary.

The 1936 meeting of the association will be held in Geneva, N. Y., date to be announced later in this column. It will be held during the week of the third Thursday in September, at which time the New York State Fruit Testing Association will also hold its annual meeting.

G. L. SLATE, Sec'y,
Geneva, N. Y.

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"Does it pay to band an orchard?" In one Illinois orchard this question was answered by a count of 12 per cent less worms in the banded than in the unbanded portion.

Entire Truck Industry Gains 32% this Year But INTERNATIONAL GAINS 67%

Figures based on R. L. Polk & Co. Data



Above: International Model C-35—one of ten Internationals owned by Clearwater Growers Association, Clearwater, Florida.

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